

**REMARKS**

Prior to entry of the requested claim amendments in this Amendment, Claims 1, 2, 5, 8, 11, 12, 16 and 22-46 are pending. Claims 1, 2, 26-29, 39-41, are directed to an *in vitro* method of transdifferentiating an epidermal basal cell into a cell having one or more morphological, physiological and/or immunological feature(s) of a glial cell. Claims 5, 30, 34-37 and 43-45 are directed to a transdifferentiated cell having one or more morphological, physiological and/or immunological feature(s) of a glial cell. Claims 8, 16, 22, 23 and 24 are directed to a transdifferentiated cell by the process of Claim 1. Claim 31 is directed to a transdifferentiated cell by the process of Claim 28. Claim 42 is directed to a transdifferentiated cell by the process of Claim 41. Claims 11, 12, 32, 33 and 46 are directed to a kit for converting, *in vitro*, epidermal basal cells into cells having one or more morphological, physiological and/or immunological feature(s) of a glial cell. Claims 25 and 38 are directed to an *in vitro* cell culture derived from the transdifferentiated cell of Claims 8 and 30, respectively.

The claims have been amended for greater clarity and for reasons described in detail below. No new matter is added by any amendment herein. Attorney for Applicants is appreciative of the clarity and thoroughness of the February 13, 2004 Office Action.

The Examiner stated the following reasons for rejection of the claims.

**A. Rejection of Claims under 35 U.S.C. 112, second paragraph**

Claims 1, 2, 5, 8, 11, 12, 16, and 22-26 were rejected under 35 U.S.C. 112, second paragraph, because the "recitation of antisense 'corresponding to' a human MSX1 or human HES1 gene" renders the claims indefinite. To overcome this rejection, Applicants have amended the claims by substituting the term "corresponding to" with the term "comprising a

segment of" as recited in the parent case of the instant application and issued as U.S. Patent No. 6,087,168. With this amendment and others that are described below, Applicants respectfully request withdrawal of this rejection.

**B. Rejection of Claims under 35 U.S.C. 112; first paragraph**

Claims 1, 2, 5, 8, 11, 12, 16, and 22-46 were rejected under 35 U.S.C. 112, first paragraph based upon a new matter rejection. The Examiner objected to the term "primary" as it modified basal epidermal cells. As noted by the Examiner, the limitation was incorporated by the Applicants in response to a prior rejection under 35 U.S.C. 112, first paragraph, calling for further clarification as the "what types of epidermal basal cells may be useful to transdifferentiate into [the claimed] cells" (See Office Action mailed June 3, 2003 at page 12). To overcome the current rejection, Applicants have amended the claims by removing the term "primary" and rewriting the claimed step "(a)" as also recited in the parent case of the instant application which issued as U.S. Patent No. 6,087,168. Accordingly, Applicants respectfully request withdrawal of the rejection.

Claims 1, 2, 5, 8, 11, 12, 16, and 22-27 as well as new claims 28-40 were rejected under 35 U.S.C. 112, first paragraph as drawn to methods and kits that include the use of any "**homologous non-human counterpart**" of the neurogenic transcription factors NeuroD1, NeuroD2, ASH1, Zic1, Zic3 or MyT1. Moreover, Claims 1, 2, 5, 8, 11, 16 and 22-27 were rejected as drawn to methods that include the use of antisense corresponding to any "**homologous non-human counterpart**" of MSX1 or HES1. Applicants have amended the claims to overcome these rejections by specifying human and non-human factors and antisense compounds that are specifically recited in the specification. Applicants respectfully request

withdrawal of the rejection.

Claims 1, 2, 5, 8, 11, 12, 16 and 22-46 were further rejected under 35 U.S.C. 112, first paragraph as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The Examiner based this rejection on the assertion that the Applicants had not demonstrated possession of a "functional glial cell" "useful for the uses set forth in the specification." The Examiner asserts that "[t]hese uses set forth by the specification would all require cells that are functionally very similar to fully differentiated and developed neuronal cells."

The Examiner's Office Action notes that Applicants' specification discloses "an indication that transdifferentiated cells acquire characteristics of astroglial cells" (page 13) and that Applicants' disclosure "teaches in Table 1 a defined set of cells having some characteristic of a differentiated neuronal cell" (page 14). The claims have been amended in order to reflect this disclosure.

The Examiner's Office Action further states that the specification of Applicants does not characterize treated cells for their ability to express 04. The claims have been amended to delete this reference.

### **CONCLUSION**

In view of the above amendments and remarks, it is submitted that this application is now ready for allowance. Early notice to that effect is solicited. If, in the opinion of the Examiner, a telephone conference would expedite the prosecution of the subject application, the Examiner is invited to call the undersigned attorney at (213) 489-3939.

Respectfully submitted,

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